

Title: OSCILLATORY NEUROCOMPUTERS WITH DYNAMIC  
CONNECTIVITY  
Preliminary Amendment  
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Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The attached page is captioned, "Version with markings to show changes made."

In view of all of the above, it is believed that applicants' claims are believed allowable, and the case is now in condition for allowance, which action is earnestly solicited.

Respectfully submitted,

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the specification:

The sentence on page 5, lines 20-21, has been amended as follows:

-- Neurocomputer 50 comprises a finite number  $n$  (in this case,  $n=5$ ) of oscillatory neural processing elements 60A, 60B, 60C, 60D, and 60E.--

The sentence on page 9, lines 6-10, has been amended as follows:

-- The following formula may be used to determine the capture-range.

$$f_c = 1/(2 \cdot \pi) \cdot \sqrt{((2 \cdot \pi \cdot f_L)/(3.6 \cdot 1000 \cdot C_2))} \quad (ii)$$

where  $C_2$  is the capacitance of the similarly designated capacitor in FIG. [5] 4 and  $f_L$  is the lock-range.—

The sentence on page 9, lines 11-12, has been amended as follows:

--By evaluating the formula for the capture range, one can see that the capture range is limited by the low pass filter time constant.—

The sentence on page 10, lines 4-8, has been amended as follows:

--In order to implement the multiplication operation as shown by the multiplication circle 171 or [172] 173, one should understand the following theory:

$$\cos(\omega_c) \cos(\omega_m) = (1/2) \cdot [\cos(\omega_c - \omega_m) + \cos(\omega_c + \omega_m)]$$

$$\Rightarrow \text{Fourier Transform} \Rightarrow$$

$$(1/4) \cdot [\delta(f + (f_c - f_m)) + \delta(f + (f_c + f_m)) + \delta(f - (f_c - f_m)) + \delta(f - (f_c + f_m))].—$$

The sentence on page 17, lines 7-8, has been amended as follows:

--Let us apply the external input  $a(t)$  with  $c_j = \xi_j^0 \xi_j^0$  [with] for a certain period of time.--

**In the claims:**

Claims 1-4 have been canceled without prejudice.

6.(Amended) A neurocomputer comprising:

a plurality of n processing element means;

a plurality of no more than n connectors operably coupled with said  
element means;

means for simultaneously applying an oscillatory signal to each of said  
element means via said connectors; and

means for generating said oscillatory signal operably coupled with said  
means for applying.

7.(Amended) The neurocomputer of claim 6, wherein:

[said plurality of connectors comprises n connectors,] each of said connectors  
[being] is operably coupled with a corresponding one of said element means.

Claims 13 and 14 have been canceled without prejudice.

25.(Amended) In a neurocomputer, a number n of active elements and a medium having no  
more than n connections operably coupled to each of the active elements for application of an  
input signal thereto, said active elements being phase locked loop oscillators.